

REMARKS

Claims 1-35 are presently pending in this application. By way of response on August 1, 2002, to the Restriction Requirement in Paper No. 8, Applicants elected to prosecute Group I claims, claims 1-19. In the Office Action issued by the Examiner on July 27, 2004, non-elected claims 20-33 were withdrawn from further consideration. In the previous Amendment, Applicants amended claims 1-19 and added new claims 34 and 35. Claims 34 and 35 were added to in order to properly claim the Markush groups listed in original claim 16.

In the present Amendment, Applicants amend claim 1 and cancel claims 3-8 and claims 20-33. Therefore, claims 1, 2, 9-19, 34 and 35 are currently under consideration. No new matter is added to the application by way of the present Amendment.

Teleconference To Discuss Allowable Subject Matter In Pending Claims

Applicants are grateful to Examiner Lambertson for his courtesy shown to Applicants' representative, Thomas Sossong, during the telephone call on October 4, 2005, to discuss claim amendments that could lead to allowable subject matter.

It is Applicants' understanding that during the teleconference, the amendment of independent claim 1 was discussed. In particular, discussed was the amendment of claim 1 to encompass nucleic acids "comprising" SEQ ID NO:1, as well as the amendment of claim 1 to indicate that the claimed complements of such nucleic acids comprise nucleic acids complementary to the entire length of nucleic acids comprising SEQ ID NO:1. Further, the amendment of the claims to remove language to hybridization, as well as to non-specific fragments, variants and homologs of SEQ ID NO:1 was discussed.

It is also Applicants' understanding that such amendments to the claims do not constitute a "new consideration" to the Examiner, and therefore, could lead to allowable claims.

Claim Objections

The Examiner objected to claims 4-6 as being of improper dependent form. While not acquiescing to the Examiner's objection, Applicants have canceled claims 4-6 herein, without prejudice, thereby rendering the Examiner's rejection moot.

The Examiner also objected to claim 1(e) for failing to further limit claim 1(a). While not acquiescing to the Examiner's objection, Applicants have canceled claim 1(e) herein, without prejudice, thereby rendering the Examiner's rejection moot.

Rejection of claims 1-19, 34 and 35 under 35 U.S.C. § 112, first paragraph – written description

The Examiner rejected claims 1-19, 34 and 35 under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors had possession of the claimed invention at the time the application was filed (a "written description" rejection). The Examiner states that the rejection is maintained for reasons previously made of record, with the exception of claim 19, which was not previously treated on the merits due to improper dependency. The Examiner apparently rejects the claim language drawn to nucleic acids encoding fragments, variants, and homologs of SEQ ID NO:1, including claim language drawn to hybridization to SEQ ID NO:1, because, in the Examiner's view, the specification does not provide a representative number of species sufficient to convince the skilled artisan that the applicant is in possession of the claimed genus.

Applicants have cancelled claims 3-8, rendering the Examiner's rejection of those claims moot.

While not necessarily agreeing with the Examiner's reasoning, Applicants have amended claim 1 herein to remove all language directed to non-specific homologs, fragments and variants of SEQ ID NO:1, including language directed to non-specific hybridization to SEQ ID NO:1. Specifically, Applicants have amended claim 1 to recite SEQ ID NO:1, full length complements of SEQ ID NO:1, nucleic acid sequences comprising SEQ ID NO:1, and mutants of SEQ ID NO:1 wherein the mutant nucleic acids encode the same protein as does the SEQ ID NO:1 nucleic acid sequence, but differ

in nucleic acid sequence from the wild type sequence due to the degeneracy of the genetic code.

Support for the amendments to claim 1 is found in the specification as filed on page 3, on page 4 in the definitions of "chorismate mutase" and "chorismate mutase activity," in the hybridization conditions listed on pages 7 and 25, and in the discussion of homologous sequences on pages 8 and 9. Specifically, these examples set forth the detailed steps required to identify or produce a nucleic acid of the present invention encoding a chorismate mutase polypeptide. Because the amendments to claim 1 and dependent claims 2, 9-19, 34 and 35 are fully supported in the specification as filed, these amendments therefore add no new matter.

Applicants submit that one of ordinary skill in the art would understand Applicants to be in possession of invention encompassed by the amended claims, as the skilled artisan would understand a nucleic acid of the claimed invention to necessarily encode a polypeptide that has the biological activity of a chorismate mutase as set forth in the present invention. Accordingly, one of ordinary skill in the art would understand the nucleic acids encompassed by the amended claims to comprise the relevant genus of nucleic acids of the present invention.

Therefore, Applicants submit that amended claim 1 and dependent claims 2, 9-19, 34 and 35, satisfy the written description requirement. Accordingly, Applicants respectfully submit that the Examiner's written description rejection has either been overcome or no longer applies, and request reconsideration and withdrawal of the rejection.

Rejections Under 35 U.S.C. § 102(b)

The Examiner has set forth two rejections under 35 U.S.C. § 102(b), arguing that the present invention is anticipated by multiple separate prior art references. The Examiner rejected claims 1, 2, 7-9, 11, 12, 14, 15, and 17-19 in detail, as being anticipated by Gray et al. (1990, Biochem. 29:376-383) and by Eberhard et al. (1996, The Plant J. 10:815-821). Both of the Examiner's rejections are essentially based on the Examiner's written description rejection, as described above. That is, in the Examiner's view, because the claims essentially read on "any chorismate mutase from any

organism," the chorismate mutases disclosed in the Gray and Eberhard references anticipate the invention.

Applicants have cancelled claims 3-8, rendering the Examiner's rejection of those claims moot.

It is well settled that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP §2131 (quoting *Verdegaal Bros. v. Union Oil Co. of Calif.*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). "The identical invention must be shown in as complete detail as is contained in the . . . claim." *Id.* (quoting *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)). Therefore, in order for a rejection under 35 U.S.C. § 102(b) to be proper, each and every element of Applicants' invention must be disclosed by either the Gray reference or the Eberhard reference. However, the neither reference teaches each and every element of the presently claimed invention.

While not necessarily agreeing with the Examiner's reasoning, Applicants have amended claim 1, as set forth in detail above. Therefore, Applicants respectfully submit that the neither the Gray reference nor the Eberhard reference anticipates the currently pending claims. As described in detail above in Applicants' response to the Examiner's Written Description rejection, Applicants have amended claim 1 to remove all language directed to non-specific homologs, fragments and variants of SEQ ID NO:1, as well as non-specific sequences that hybridize with SEQ ID NO:1. Specifically, Applicants have amended claim 1 to recite SEQ ID NO:1, full-length complements of a nucleic acid comprising SEQ ID NO:1, nucleic acid sequences comprising SEQ ID NO:1, and mutants of SEQ ID NO:1 wherein the mutant nucleic acids encode the same protein as does the SEQ ID NO:1 nucleic acid sequence, but differ in nucleic acid sequence from the wild type sequence due to the degeneracy of the genetic code. Neither the Gray reference, nor the Eberhard reference discloses or teaches SEQ ID NO:1, full-length complements of a nucleic acid comprising SEQ ID NO:1, nucleic acid sequences comprising SEQ ID NO:1, and mutants of SEQ ID NO:1 wherein the mutant nucleic acids encode the same protein as does the SEQ ID NO:1 nucleic acid sequence, but differ in nucleic acid sequence from the wild type sequence due to the degeneracy of the genetic code.

Therefore, Applicants respectfully submit that neither the Gray reference nor the Eberhard reference anticipates amended claim 1, nor does it anticipate claims 2, 7-9, 11, 12, 14, 15, 17-19, which depend from claim 1. Accordingly, Applicants respectfully submit that the Examiner's rejections under 35 U.S.C. § 102(b) have either been overcome or do not apply, and respectfully request reconsideration and withdrawal of both rejections.

Summary

Applicants respectfully submit that each of the Examiner's objections and rejections has either been overcome, rendered moot, or does not apply, and that each of claims 1, 2, 9-19, 34 and 35 is fully supported by the specification as originally filed and in condition for allowance. No new matter has been added to the application by way of the present amendments. Consideration and allowance of each of these claims are respectfully requested at the earliest possible date.

Respectfully submitted,

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Date

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